



## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Part 122

[FRL-9671-5; EPA-HQ-OW-2012-0195]

Notice of Intent to Revise Stormwater Regulations to Specify that an NPDES Permit is not Required for Stormwater Discharges from Logging Roads and to Seek Comment on Approaches for Addressing Water Quality Impacts from Forest Road Discharges

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of Intent.

**SUMMARY:** The EPA intends to expeditiously propose revisions to its Phase I stormwater regulations to specify that stormwater discharges from logging roads<sup>1</sup> are not stormwater discharges “associated with industrial activity.” This notice of intent is in response to the Ninth Circuit Court of Appeals which found in *Northwest Environmental Defense Center v. Brown* that certain logging roads are stormwater point sources “associated with industrial activity.”

Additionally, EPA is seeking comment on approaches for addressing water quality impacts associated with discharges of stormwater from forest roads. Where appropriate best management practices (BMPs) are used, receiving waters can be protected and impacts can be minimized. If not properly managed, however, stormwater discharges from some forest roads can cause preventable impairments to water quality. EPA believes that stormwater discharges from forest

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<sup>1</sup> EPA notes that the 9<sup>th</sup> Circuit decision in *NEDC v Brown* addressed only certain logging roads, not forest roads more generally. EPA interprets the decision as not affecting the status of silvicultural activities other than logging roads. EPA’s regulations at 40 C.F.R. §§ 122.26(b)(14) and 122.27 exclude most silviculture activities from the requirement to obtain an NPDES stormwater permit, with certain exceptions.

roads should be evaluated under section 402(p)(6) of the Clean Water Act because the section allows for a broad range of flexible approaches that are well-suited to address the complexity of forest road ownership, management, and use. Section 402(p) of the Clean Water Act allows EPA to consider a range of regulatory and non-regulatory approaches and determine which forest road discharges (if any) should be regulated under 402(p)(6). The EPA intends to study the water quality impacts of forest roads and existing federal, state, tribal, and voluntary programs designed to address them to determine if additional Agency action is necessary. The EPA will seek input again prior to taking additional action.

**DATES:** Comments must be received on or before [INSERT DATE 30 DAYS FOLLOWING PUBLICATION IN THE **FEDERAL REGISTER**].

**ADDRESSES:** You may submit comments, identified by docket number EPA-HQ-OW-2012-0195, by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Mail: Water Docket, Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Avenue, NW, Washington DC 20460, Attention Docket ID No. EPA-HQ-OW-2012-0195.
- Hand Delivery / Courier: EPA Docket Center, (EPA/DC) EPA West, Room 3334, 1301 Constitution Avenue, NW, Washington, DC, 20460. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

*Instructions:* Direct your comments to Docket ID No. EPA-HQ-OW-2012-0195. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://www.regulations.gov>, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through <http://www.regulations.gov> or e-mail. The <http://www.regulations.gov> Web site is an “anonymous access” system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to the EPA without going through <http://www.regulations.gov>, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at <http://www.epa.gov/epahome/dockets.htm>.

*Docket:* All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available, i.e., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in <http://www.regulations.gov> or in hard copy at the Water Docket,

EPA Docket Center, EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Water Docket is (202) 566-2426.

**FOR FURTHER INFORMATION CONTACT:** For further information on this notice, you may contact Jeremy Bauer, EPA Headquarters, Office of Water, Office of Wastewater Management via email at [bauer.jeremy@epa.gov](mailto:bauer.jeremy@epa.gov) or telephone at 202-564-2775.

## **SUPPLEMENTARY INFORMATION:**

### **I. General Information**

#### *A. Applicability*

This notice does not impose requirements on any entity. If you have questions regarding the applicability of this notice, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

#### *B. Copies of this Document and other Information*

This document is available for download at <http://www.epa.gov/npdes/stormwater/forestroads> or under docket EPA-HQ-OW-2012-0195.

### **II. Background**

#### *A. Purpose*

This notice describes the administrative steps the Agency intends to take to address the unpermitted stormwater discharges identified under *Northwest Environmental Defense Center v. Brown*, 1063 F.3d 1176 (9<sup>th</sup> Cir. 2011) and related discharges subject to the partial remand under *Environmental Defense Center, Inc. v. EPA*, 344 F.3d. 832, 863 (9<sup>th</sup> Cir. 2003). Specifically, the Agency is announcing its plan to propose revisions to its Phase I stormwater regulations (40 CFR

122.26) to specify that stormwater discharges from logging roads are not included in the definition of “storm water discharge associated with industrial activity.” The effect of this revision would be to remove any obligation for an owner or operator of a logging road that has discharges of stormwater to waters of the United States to seek coverage of the discharge under the Stormwater Multisector General Permit and to comply with that General Permit or to have an individual permit under section 402 of the Clean Water Act for such a discharge. EPA is aware that a Congressional moratorium on NPDES permitting of some logging roads is set to expire on September 30, 2012, and intends to move expeditiously to complete this revision.

At the same time, the Agency intends to evaluate stormwater discharges from forest roads to determine what additional measures, if any, are necessary to address such discharges. The EPA is publishing this notice to request comment on some potential approaches that the Agency should consider for addressing stormwater discharges from forest roads. As indicated earlier in this notice, the Agency will seek input again prior to taking additional action.

#### *B. Overview of forests and forest roads*

A vast and diverse network of forest roads provides access into and through the nation’s forested lands. These roads traverse federal public land, state and local public land, county land, tribal land, private land, and they can span any combinations of these. The network includes active and inactive roads that vary in age and condition. Some roads on public lands are unauthorized and may not be included in existing inventories. Forest roads provide important access for a wide range of activities, including timber operations, recreation, fire protection, transportation, and often serve multiple purposes by multiple users at the same time.

There are about 751 million acres of forested land in the United States. Private forests make up over half (56 percent) or approximately 423 million acres (USDA Forest Service 2008), and

account for over 90 percent of all timber harvested in the United States in recent years (Adams et al., 2006). Of the private forest land, 62 percent is owned by families and individuals and is commonly referred to as “family forests.” Most of the family forest owners (around 61 percent) own fewer than 10 acres of forest land. Owners of the remaining private forest land include corporations, Real Estate Investment Trusts (REITs), conservation organizations, clubs, and Native American tribes (USDA Forest Service 2008). Over 300 Native American reservations are significantly forested, and Native American tribal lands include 17.9 million acres of forest land, including 7.7 million acres of productive timberland (ITC 2007). Private forest land owners invest considerable resources in forest road construction and maintenance, as they are critical assets that enhance property values, maintain economic viability, and facilitate sustainable forestry management.

Forty-four percent of forest land is publicly-owned, or approximately 328 million acres. The Federal government administers an estimated 76 percent of the public forest land. State forestry, park, and wildlife agencies account for most of the 21 percent of state-owned public forest land. The remaining 3 percent of public forest land is owned by local governments, such as counties and towns (USDA Forest Service 2008). Within the United States, the distribution of public versus private forests differs greatly among the various regions of the country. For example, forest-ownership in the Northwest is dominated by public (primarily the USFS and BLM) ownership, while private ownership is more prevalent in the Southeast and Northeast (*Ibid.*).

While some forest road inventory information on federal lands is available, meaningful interpretation and comparison of that information requires an understanding of differences in inventory methods used (e.g., minimum road length included in road length counts), differences in the classes of forest roads (e.g., road surfacing, sediment production and delivery, and

hydrologic connectivity), and differences in road densities. Nevertheless, the networks of forest roads on federal land are vast by any measure, with total lengths on the order of tens of thousands to hundreds of thousands of miles. The networks in other publicly-owned forests, tribal forests, and private forests have not been fully catalogued, and the density and condition of forest roads on these lands, as with the federal lands, varies widely.

Forest road networks differ greatly in development through time and layout over terrain, and they carry this history into their present performance and environmental impacts (Gucinski et al, 2001). In many parts of the 193 million acres of the National Forest System (NFS), the major roads were built in the 1950s and 1960s, with secondary and tertiary feeder roads following as the road networks expanded into watersheds. In other areas, logging roads developed from previous road systems used for mining in the Rocky Mountain and southwestern states or agriculture in the southern Appalachians, Ozarks, and New England. Thus, changes in forest road standards through time (for example, width, construction methods, position in the landscape) have affected different parts of road networks. Consequently, each forest road network commonly contains a collection of older and newer roads, designed to different standards, for various purposes, and crossing terrain of differing sensitivities. This mosaic of road segments has implications for how the forest road network will interact with the forest watershed, streams, and other downstream aquatic resources (Gucinski et al., 2001), as well as for what is practicable, or even feasible, to address stormwater discharges from these roads.

Regional differences are also evident in where the forest roads were located. For example, in southeastern Alaska, main roads were built on the broad, valley floors, where timber growing on the lower hillslopes was yarded downhill to them. In California, west of the Sierra Nevada, major roads were built along broad ridges, with secondary roads leading down into headwater areas.

The main roads into western Oregon forests entered watersheds along narrow stream bottoms and then climbed the adjacent steep, unstable hill slopes to access timber extending from ridge to valley floor (Gucinski et al., 2001)

Federal forest roads on both BLM and Forest Service lands generally support traffic from multiple uses such as recreational, administrative, fire protection, and mineral and silvicultural activities. Of those, only a portion may be used for accessing timber resources. The federal land management agencies may grant easements, reservations, and permits for the purpose of construction, operation, and maintenance or use of roads crossing their lands.

The majority of BLM industrial logging operations occur on Oregon and California (O&C) lands<sup>2</sup> which have approximately 14,455 miles of road. BLM O&C lands are interspersed in a checkerboard pattern with many landowners. The roads often cross multiple jurisdictions, including tribal, state, county and private land as well as BLM lands. As a result, a complex system of road right-of-way agreements exists on the BLM O&C lands, as discussed later in this notice.

The paragraphs above discuss the range of property types into which forest roads provide access. The same road may pass through multiple owners and multiple properties. Moreover, the ownership of the road does not necessarily correspond to the ownership of the forest land. For example, a BLM owned road may pass through private property, and a privately owned road may pass through BLM property.

In general, only a subset of forest roads are active or open in any given year or at any given time of year. When active or open, forest roads may be serving multiple purposes by a number of

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<sup>2</sup> Oregon and California (O&C) Lands Act of 1937. 43 U.S.C. §1181a. The O&C Lands Act placed management jurisdiction of the lands under the United States Department of the Interior.



different users. For example, those roads that are open and used for logging may cross multiple ownerships with overlapping responsibilities for the road and be used by multiple logging operators during the same time frame. This creates a highly complex mosaic of overlapping responsibilities. The EPA does not have information on all forest roads but notes that usage for some roads, including forest roads on private property, may only occur during harvesting once every 20 years or so.

Some forest roads are inactive and have been closed and “storm-proofed” (i.e., they have appropriate BMPs for road drainage and erosion control and for reducing the vulnerability of the roads to natural disasters). Others may have been closed or abandoned. Among both active and inactive forest roads are older forest roads that were built or located without the benefit of newer standards.

The wide range of regulatory and non-regulatory approaches authorized under section 402(p) of the CWA are well-suited to address stormwater discharges originating from the complex and diverse forest road universe because such approaches provide for flexibility and prioritization and allow EPA to focus on the subset of forest roads with stormwater discharges that cause or contribute to water quality impacts. Under 402(p) EPA could build on or defer to other federal, state, tribal, local, and voluntary programs.

### *C. Overview of Water Quality Impacts from Stormwater Discharges from Forest Roads*

The goal of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters. 33 U.S.C. § 1251(a). High quality water supplies from forests are widely recognized as valuable resources. Forests cover about one-third of the continental United States. Most major rivers and streams originate in forested catchments (NCASI, 1994), and 80 percent of the nation’s freshwater sources originates in these forests

(USFS 2000). In 2000, the US Forest Service (USFS) calculated the marginal value of water from all National Forest System (NFS) lands to be at least \$3.7 billion per year (*Ibid.*). Between 50 and 75 percent of the population of the United States relies on forest lands for good quality water (Neary et al. 2009), and approximately 60 million people rely on NFS lands as the primary source of their drinking water (Dissmeyer 2000).

Stormwater discharges from logging roads, especially improperly constructed or maintained roads, may introduce significant amounts of sediment and other pollutants into surface waters and, consequently, cause a variety of water quality impacts. Results of nationwide waterbody assessments from the EPA's Assessment and Total Maximum Daily Loads (TMDL) Tracking and Implementation System (ATTAINS), which contains the most currently available data reported by states to the EPA under Sections 305(b) and 303(d) of the CWA, found silviculture (forestry) and related activities, including forest and logging roads, to be among the top twelve probable sources of impairment for rivers, streams, and coastal shorelines (USEPA 2012).

The ATTAINS database indicates that silviculture sources contributed to impairment of 19,444 miles of rivers and streams (3.8 percent of the total of 514,795 miles impaired) and 242,583 acres of lakes, reservoirs and ponds (1.9 percent of the total of 13,038,033 acres of impaired). States cited "Logging roads (construction and use)" as the "specific source" of impairment in the case of 1,334 miles of rivers and streams (.003 percent of total impaired) and 6,150 acres of lakes, reservoirs and ponds (.0005 percent of total impaired).

The contribution of silviculture to water quality impairments can vary by region, and the contribution of discharges from forest roads to water quality impairments in the ATTAINS database may not be representative due to reporting differences among states. Some states may have categorized the source of impairment as "hydromodification" or "habitat alteration"; many

states consistently report in the "unknown" source category for impairments – the third leading probable source category of impairment nationwide. Additionally, much of the nation's waters still remain unassessed (72 percent of rivers and streams; 54 percent of lakes, reservoirs, and ponds; 62 percent of bays and estuaries; and 96 percent of coastal shorelines). The EPA considered the differential contribution from forest road stormwater discharges on water quality as the Agency developed the potential approaches for addressing these sources. For example, the EPA recognizes that not all forest roads cause water quality impacts and that the majority of the water quality impacts caused by discharges from forest roads may be attributed to a relatively small subset of forest roads and often a small portion of those roads (Nelson et al., 2010; Fly et al., 2010; Luce and Black, 2001; Luce and Black, 1999). Thus, any approach to address stormwater discharges from forest roads would likely focus on the subset of forest roads that were not properly constructed or are not properly maintained.

Stormwater discharges from improperly constructed or maintained forest roads can lead to excess sedimentation in nearby waters and subsequently lead to physical, biological and ecological impacts to water quality. These forest roads can degrade aquatic ecosystems by increasing levels of fine sediment input to streams and by altering natural streamflow patterns. Forest road runoff from improperly designed or maintained forest roads can detrimentally affect stream health and aquatic habitat by increasing sediment delivery and stream turbidity. This can adversely affect the survival of dozens of sensitive aquatic biota (salmon, trout, other native fishes, amphibians and macroinvertebrates) where these species are located. Increased fine sediment deposition in streams and altered streamflows and channel morphology can result in increased adult and juvenile salmonid mortality where present (e.g., in the Northwest and parts

of the East), a decrease in aquatic amphibian and invertebrate abundance or diversity, and decreased habitat complexity.

The physical impacts of forest roads on streams, rivers, downstream water bodies and watershed integrity have been well documented but vary depending on site-specific factors. Improperly designed or maintained forest roads can affect watershed integrity through three primary mechanisms: they can intercept, concentrate, and divert water (Williams, 1999). Forest roads can intercept water falling as rainfall directly on road surfaces and cutbanks as well as subsurface water moving underground down the hillslope. They can concentrate flow on the road surface and in adjacent ditches and channels. Forest roads, if not properly designed, can divert both surface and subsurface water from flow paths that otherwise would be taken in the absence of a road. The hydrologic and geomorphic consequences resulting from these three processes will vary based on the forest road and underlying material. In some cases, impacts may be negligible, while they may be significant in others. Potential effects of forest roads that were not properly constructed or are not properly maintained on water quality can include increased loading of sediment due to erosion and mass wasting, increased suspended solids and turbidity, increased sediment deposition and bed load, alteration of stream morphology and channel simplification, altered streamflow, pollution from other chemicals associated with forest roads, increased turbidity and sedimentation in water treatment and supply systems, siltation of streambed substrates, impairments of spawning and rearing habitat, and degradation of habitat for salmonids, other fish, invertebrates, and other aquatic organisms.

Section VII, References, at the end of this notice provides a preliminary list of articles and publications that have examined various potential effects of stormwater discharges from forest roads, as well as management practices to address them. The EPA will further review this

literature as part of its detailed study of these sources. The Agency also welcomes suggestions for additional references that it should consider in its review.

#### *D. Description and Effectiveness of BMPs and Current Practices*

Forest roads are vital components of the human use of forested systems (Gucinski et al., 2001). They provide access for recreation, resource extraction, fire suppression activities, and many other forest management activities. While improperly built and maintained forest roads can have detrimental effects on the water quality, the application of appropriate BMPs can minimize these effects.

Owners and operators of many forest lands may already be employing a variety of effective approaches to manage, operate, and maintain forest roads to control stormwater discharges. These approaches are implemented by the forest road owners themselves or by operators or users of the roads. Depending on the jurisdiction, owners or operators use BMPs as a result of state program requirements, federal requirements, or because they may follow voluntary programs, including forest stewardship and sustainability initiatives. Under these required or voluntary programs, owners and operators of forest roads use BMPs to minimize or prevent discharges of pollutants into surface waters. They include design approaches, treatment techniques, operating procedures, and practices to control runoff, spillage, and leaks.

##### **1. State Programs**

Most states have forest land management laws regulating multiple aspects of forest and timber resources and management and the products derived from these resources. Many states have a complex legal framework of forestry regulations that shape the state's forest road BMP programs. This framework and the resulting BMP programs vary considerably from one state to another. States also differ in how they distribute responsibility and authority for the forest road

BMP programs among the state water quality, forestry, and fish and wildlife agencies. This notice describes three existing state programs to illustrate some of the variety among the states. Descriptions of the remaining state programs may be available through state Web pages.

In Washington State, the forest practices act and rules (Forests and Fish Rules) apply to all private and state forest roads. Forest Practices Rules require that forest landowners construct and maintain roads to avoid potential or actual damage to public resources, such as water quality and fish habitat. The Washington program addresses both new forest roads as well as existing roads. The program requires larger forest landowners to complete an inventory of existing roads, identify where roads are impacting state resources (including fish and water quality), and allows for prioritization of repairing, relocating, or abandoning existing roads to correct problems. All large forest landowners must develop and submit for approval by the Washington Department of Natural Resources (DNR) a Road Maintenance and Abandonment Plan (RMAP) in which they inventory their forest roads and outline a schedule for any needed road work, including a timeline to bring old roads up to current standards or to decommission or “abandon” substandard roads. Small forest landowners are required to submit a “checklist RMAP,” which is a form landowners fill out to indicate they have assessed their roads included in a harvest and identified any potential road maintenance problems. While the program is enforceable, the state focuses first on technical assistance and then, to correct problems, uses progressive enforcement mechanisms and generally reserves civil penalties for more serious infractions. If a problem is identified, WA DNR describes the outcome expected, and the landowner describes what BMPs will be used to correct it.

Forest roads that no longer need to be used or cannot meet the performance standards are encouraged to be abandoned. Abandonment strategies may involve the removal of stream

crossing structures and unstable road fill, installing water bars, re-vegetating exposed soils, and employing other similar techniques. WA DNR must approve the roadwork before the road can be considered abandoned.

Florida relies primarily on voluntary compliance with state approved forest road BMPs. However, BMPs can be enforced where noncompliance leads to a significant risk to water quality. When a significant risk has been identified, professionally-trained BMP foresters advise the landowners on how to implement corrective measures. Afterward, a follow-up site evaluation is made to reassess compliance. Landowner non-compliance with recommendations made by the BMP Forester could result in a referral to the appropriate regulatory agency for enforcement action.

California's Forest Practice Rules establish a comprehensive framework that includes state-developed and approved BMPs for silvicultural activities on private lands, including road-building practices, and other related silvicultural activities. California allows coverage under one approach that includes requirements that closely resemble those of an individual permit, known as "Waste Discharge Requirements," as well as another approach allowing the use of a "waiver" whose requirements are closer to those of a general or regional permit. Having a "waiver" obviates the procedural need for coverage under the "Waste Discharge Requirements" program, but the substantive requirements of that program remain enforceable.

The California program is based on input from state water quality and natural resource agencies and incorporates a formal, annual adaptive management process reflecting incremental analysis of BMPs, which regularly results in updated BMP requirements. The waste discharge requirements apply similarly and equally to both public and private lands. Enforceability of the Forest Practice Rules is overseen by multiple agencies: California Department of Forestry, the

California Department of Fish and Game, and the state water Quality Control Board and Regional Water Quality Control Boards (California's water quality agency).

Many states have been monitoring forestry BMP implementation for the past 20 years or more. During that time, state forestry agencies have approached implementation monitoring in different ways with varying degrees of detail, precision, and statistical strength. In general, BMP implementation has been reported to be highest on public land, followed in descending order by forest industry land, corporate non-industrial land, and private non-industrial land (Prud'homme and Greis, 2002).

EPA recognizes that one-size-fits-all approaches may not be appropriate for addressing the multiplicity of issues and situations within and across states. EPA welcomes diversity in state programs and will be carefully studying the full range of such programs as it considers whether any additional measures to address stormwater discharges from forest roads are needed.

## 2. USDA Forest Service Programs

### a. Forest Service National BMP Program

The goal of the USDA Forest Service (USFS) National BMP Program is to improve agency performance and accountability in managing water quality in a manner consistent with the CWA and state water quality programs. Current USFS policy directs compliance with any required CWA permits and state rules and regulations, and requires the use of approved BMPs to control pollution. The National BMP Program was developed over the past decade and is currently in the initial stages of implementation. It is intended to provide consistency among USFS administrative units to efficiently administer BMPs and demonstrate performance and accountability at multiple scales in an adaptive management context. The program is intended to



meet or exceed state BMP objectives as well as to simplify and standardize water quality protection measures and monitoring on NFS land. (USDA Forest Service 2012)

The National Core BMPs integrate existing state and USFS regional BMPs under one umbrella to facilitate an agency-wide BMP implementation and effectiveness monitoring program. The National Core BMPs provide a general, non-prescriptive framework of BMPs for the broad range of activities that occur on NFS lands. (*Ibid.*)

b. Forest Service Watershed Condition Framework

The USFS's Watershed Condition Framework (WCF) is a comprehensive approach for classifying watershed condition, implementing integrated restoration in priority watersheds on national forests and grasslands, and tracking and monitoring outcome-based program accomplishments for performance accountability (USDA Forest Service 2011). The policy goal of the USFS WCF is "to protect National Forest System watersheds by implementing practices designed to maintain or improve watershed condition, which is the foundation for sustaining ecosystems and the production of renewable natural resources, values, and benefits." The WCF provides a consistent way to evaluate watershed condition at both the national and forest levels. The WCF consists of reconnaissance-level assessments by individual national forests, implementation of integrated improvement activities – including those related to roads – within priority watersheds, validation and monitoring of watershed condition class changes, and aggregation of program performance data for national reporting.

c. Forest Service Legacy Roads Project

The USFS has been engaged in an extensive program of road improvement efforts called the Legacy Roads Project since 2008. The goals of this effort are to reduce the hydrologic and geomorphic impacts of the existing USFS road network on critical watersheds and aquatic

resources by decommissioning or upgrading forest roads. The Legacy Roads Monitoring Project is a regional effort to examine the effectiveness of the road decommissioning, storm damage risk reduction (aka “storm-proofing”) and road storage projects.

### 3. United States Department of the Interior Bureau of Land Management Programs

The Bureau of Land Management (BLM) manages 58 million acres of forest and woodlands in eleven western states and Alaska, including 2.4 million acres within the Oregon and California (O&C) grant lands in western Oregon. BLM O&C regulations regarding third party road uses provide that “The intent and expectation of both parties to agreements is that roads are left in ‘at least as good condition as existed prior to commencement of use’” (43 CFR 2812.6-2(b)(2)). The Federal Land Policy Management Act (FLPMA) requires public lands to be managed on the basis of multiple use and sustained yield without permanent impairment of the land and quality of the environment. Under Sec 502 of FLPMA, the Interior Secretary is authorized to provide for the maintenance of roads within and near the public lands and perform that work, in part, by cooperative financing with other public agencies and with private agencies and persons in proportion to their use. Forest roads may be constructed and maintained by logging operators, private landowners, the BLM, the USFS, or state or county governments. BLM roads, culverts, and bridges are designed, constructed, and maintained in accordance with policies and standards found in BLM 9100 Manual Series (Engineering) for road BMPs. In Oregon and Washington, the BLM has recently (2011) updated BMPs and, as a result, current road construction and maintenance standards are substantially improved over the standards in existence when the CWA was enacted in 1972. BLM timber sale contracts contain extensive specifications related to methods and timing of road construction and maintenance. In addition, the BLM often includes

operational restrictions in their timber sale contracts to reflect appropriate protections for fish species listed under the Endangered Species Act (ESA).

Under rights-of-way agreements, examples exist of private companies owning roads constructed on BLM lands, and BLM owning roads built on private lands. There are dozens of rights-of-way agreements in place on O&C lands. These agreements are subject to frequent amendment as landowners consolidate or sell lands or split off separate corporate entities for business purposes, creating a complex access program.

#### 4. Tribal Programs

Tribal governments in partnership with the US government dedicate substantial resources to improving Indian forest management (ITC 1993). Much of the responsibility for managing Indian forests across the country is carried out by the Bureau of Indian Affairs (BIA) with the involvement of tribal governments. The National Indian Forest Resources Management Act (NIFRMA), Title III, P.L. 101-630, directs the Secretary of the Interior, in consultation with the affected Indian tribes, to obtain an independent assessment of the status of Indian forest resources and their management. Similar to the National Forest Management Act, the NIFRMA requires the development of forestry management plans under which the forests are managed in accordance with BMPs, as approved thorough an interdisciplinary team. The Tribal Forest Protection Act (Pub.L. 108-278) authorizes the Secretary of Agriculture and the Secretary of the Interior to enter into an agreement or contract with Indian tribes to carry out projects to protect Indian forest land. Protection of such land is particularly important for tribes because they pass their land on from generation to generation. This helps to ensure future availability of natural resources, including healthy forests and clean water.

Many tribes have taken on significant roles in sustainable forest management. For example, the Menominee Indian Tribe of Wisconsin manages 95 percent of the forested portions of the reservation for long-term sustainability through the Menominee Tribal Enterprises which has received certifications for sustainable management from two groups, Scientific Certification Systems (The Forest Conservation Program) and the Rainforest Alliance (SmartWood), and is accredited by the Forest Stewardship Council. As another example, the Northern Cheyenne Tribe requires that all new roads be obliterated and seeded after forest harvesting activities. Similarly, the Blackfeet Nation has a no net new road miles policy, in that new forest roads associated with forest harvest must be closed, or other roads must be closed in their place.

#### 5. Voluntary Certification Programs

On private forestlands, significant BMP implementation can be attributed to growing involvement of forest owners in sustainable forestry certification programs. Several certification programs exist. Under one program, the Sustainable Forestry Initiative (SFI) of the American Forest and Paper Association, member companies must meet or exceed state BMPs on company-owned forest land (Prud'homme and Greis, 2002). Because SFI is linked to state BMPs, the forest road BMPs applied under SFI vary by state. Some forest products companies impose sanctions on timber producers who fail to implement BMPs when logging on other ownerships.

Under another, the Forest Stewardship Council (FSC) certification program, certified forest owners and operators follow a set of principles and criteria that support responsible forest management (FSC 2012). Principles and criteria include conservation of biological diversity, water resources, soils, and unique and fragile ecosystems and landscapes. Under FSC certification, additional requirements tailored by region guidelines must also be met in addition to state BMPs.

Under a third program, the American Tree Farm System, a written certification is issued by an independent third-party that attests to the sustainable management of a working forest (ATFS 2012). In addition to requirements that they be in compliance with state BMPs, certified forest managers must also attest compliance with eight standards of sustainability, including the maintenance or enhancement of the environment and ecosystems.

Certification programs can both help ensure implementation of state BMPs and in some instances require additional BMPs. Forestry operations that utilize experienced and informed land managers generally have higher rates of BMP implementation. Thus, many states recommend that landowners utilize forestry professionals (e.g., private consultants, certified Master Loggers) when planning any forest management operations. Many certification programs require involvement of forestry professionals.

#### *E. Successes and Remaining Challenges*

As described above, successful federal, state, tribal, and local programs for controlling stormwater discharges from logging and forest roads currently exist in many parts of the country and many forest owners are implementing BMP programs to address these discharges. Some studies have observed trends of decreasing sediment input as forest roads are closed and storm-proofed or newly built or brought up to standards (e.g., Dubé et al. 2010).

However, this does not mean that all of the existing programs have been successful at effectively addressing stormwater discharges from forest roads, and some discharges continue to cause or contribute to impairments for the Nation's waters.

At the same time, not all forest roads are alike, and the severity of the remaining challenges varies. There is evidence that a majority of the water quality impacts caused by discharges from forest roads can be attributed to a relatively small subset of forest roads and often a small portion

of those roads (Nelson et al., 2010; Fly et al., 2010; Luce and Black, 2001; Luce and Black, 1999). Thus, EPA believes that further study of forest roads and their impacts is needed in order to determine what additional measures may be needed to address remaining water quality impacts. EPA will consider a full range of potential approaches to address water quality impacts associated with discharges of stormwater from forest roads.

### **III. Approaches for Managing Stormwater Discharges from Forest Roads**

The Agency is considering several options for addressing significant water quality impacts caused by stormwater discharges from forest roads. EPA is considering designating a subset of stormwater discharges from forest roads for appropriate action under section 402(p)(6) of the Act. Section 402(p)(6) allows the EPA flexibility in issuing regulations to address designated stormwater discharges and does not require the use of NPDES permits. 33 U.S.C. 1342(p)(6). Section 402(p) allows for a broad range of regulatory and non-regulatory approaches and provides flexibility as to which stormwater discharges, if any, should be designated under Section 402(p)(6). For example, in lieu of regulation, EPA could support or defer to other federal, state, tribal, local, and voluntary programs. If EPA does determine that regulation under Section 402(p)(6) is appropriate for a subset of stormwater discharges from forest roads, such a regulation might address discharges only from roads used for logging or might address discharges based on contribution of the discharge to a water quality problem. Section 402(p)(6), in turn, provides considerable flexibility to EPA if it does designate any discharges for regulation in how it regulates those discharges.

EPA intends to further study the impacts of stormwater discharges from forest roads, available management practices and approaches, and the effectiveness of existing Federal, State,

Tribal, local and private programs in managing these discharges, as it considers appropriate next steps.

#### **IV. Outreach and Stakeholder Involvement**

The EPA is in the process of reviewing available information on both the water quality impacts of stormwater discharges from forest roads as well as existing practices for their control. Consistent with past Agency actions, the EPA invites interested stakeholders and the public to share in the exchange of information and to engage as the Agency considers alternative approaches for addressing stormwater discharges from forest roads.

The Agency participated in the recent technical symposium hosted by the Society of American Foresters during which EPA scientists and engineers had the opportunity to hear perspectives on forest roads and the Clean Water Act from state and industry representatives directly. In addition, the EPA has begun communicating with states, tribes, and other federal agencies to understand their current forest road stormwater management programs. The Agency worked closely in particular with USDA (the USFS) and the Department of the Interior (the BLM). The EPA also welcomes information from other interested parties and plans to work closely with other stakeholders moving forward.

The EPA encourages stakeholders and the public to provide input into its consideration of appropriate measures to address stormwater discharges from forest roads and is already planning to host public meetings and webcasts to provide a forum for them to do so.

#### **V. Next Steps**

The Agency will move expeditiously to propose a revision to its Phase I stormwater regulations (40 CFR 122.26) to specify that stormwater discharges from logging roads are not included in the definition of “storm water discharge associated with industrial activity.” EPA is

aware that a Congressional moratorium on NPDES permitting of some logging roads is set to expire on September 30, 2012, and intends to move expeditiously to complete this revision. EPA will also study the water quality impacts of forest roads and existing federal, state, tribal, and voluntary programs designed to address them to determine if additional Agency action is necessary. EPA also plans to hold listening sessions to obtain stakeholder input this summer on its consideration of how best to address stormwater discharges from forest roads.

## **VI. Request for Comment**

The EPA requests comment on potential approaches for addressing stormwater discharges from forest roads. The Agency also seeks input on examples of successful existing BMP-based state programs, tribal programs, and voluntary certification programs for managing stormwater discharges from forest roads; how these programs are implemented; how program accountability is assured; the costs of implementing those programs, including costs incurred by owners or operators of forest roads as well as the costs incurred by the organizations responsible for implementation and enforcement; the demonstrable successes of these programs; and the lessons learned in implementing such programs.

The EPA will again seek input on any additional measures to address such discharges before taking additional action.

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